

**JOINT  
CLOSE AIR SUPPORT/  
BATTLEFIELD INTERDICTION  
MISSION AREA ANALYSIS**

**THIS BRIEFING CLASSIFIED**

**SECRET**

ARMY review completed.

USAF review completed.

L-2 ON THE CAS/BATTLEFIELD INTERDICTION MAA IS ONE OF A SERIES CONDUCTED JOINTLY BY TAC AND  
R OFF THE US ARMY TRAINING AND DOCTRINE COMMAND (TRADOC).  
L-2 OFF

L-3

THE OBJECTIVE OF THIS MISSION AREA ANALYSIS IS SHOWN ON THIS SLIDE.

R-OFF

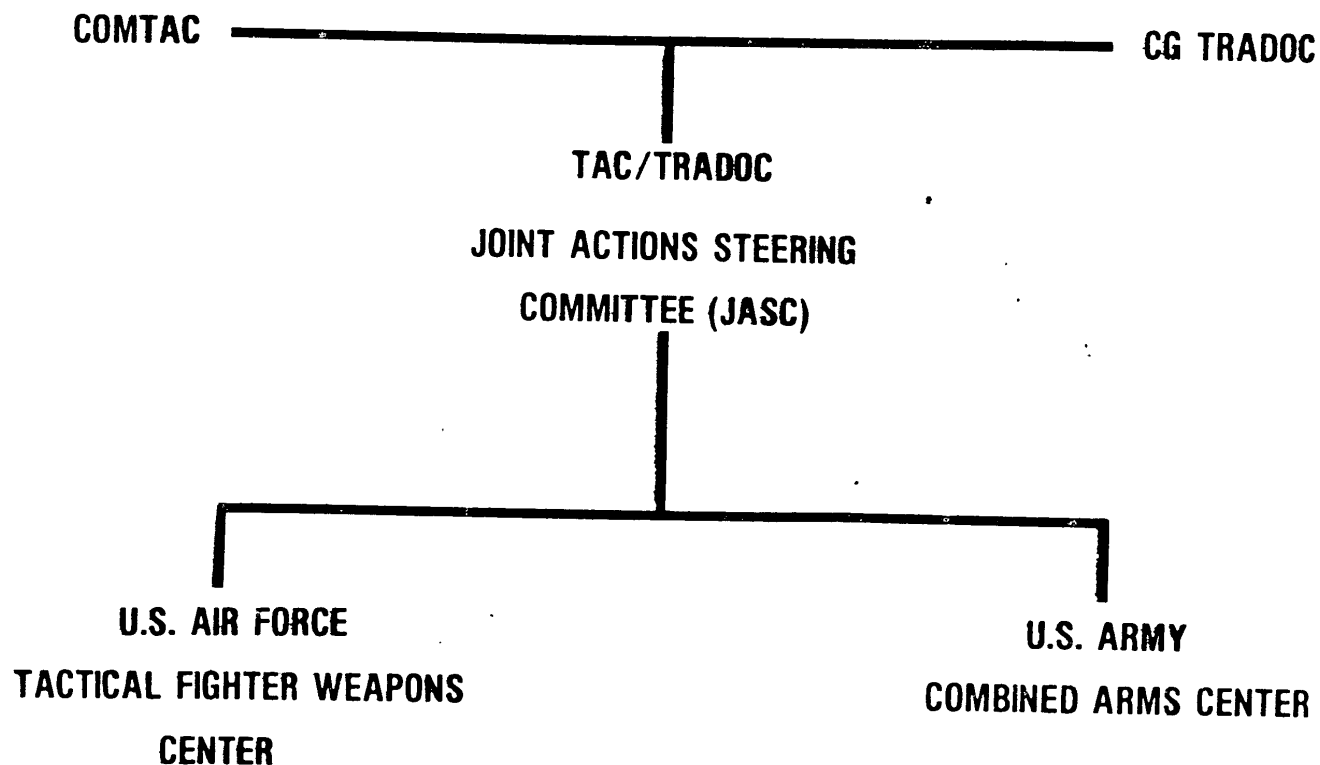
## **PURPOSE**

- **JOINT MISSION AREA ANALYSIS (MAA)**
  - **CONTINUING ANALYSIS TO IDENTIFY CAS/BI MISSION NEEDS IN TERMS OF THE OPERATIONAL TASK TO BE ACCOMPLISHED**

-4  
OFF

THIS ANALYSIS WAS PERFORMED JOINTLY BY THE TACTICAL FIGHTER WEAPONS CENTER AND THE ARMY'S COMBINED ARMS CENTER, AND WAS CONDUCTED AT NELLIS AFB. THE EFFORT WAS UNDER THE DIRECTION OF THE TAC/TRADOC JOINT ACTIONS STEERING COMMITTEE.

# TASKING



-5 THESE WERE THE PLAYERS. OPERATIONAL EXPERTISE WAS DRAWN FROM ACROSS THE TACTICAL AIR FORCES AND VARIOUS ARMY CENTERS. THE STUDY TEAM INCLUDED MEMBERS FROM THE TACTICAL AIR FORCES AND THE R&D COMMUNITY AS WELL AS THE ARMY LIAISON TEAM AT NELLIS.

## **PARTICIPANTS**

- **TAC**
- **TACTICAL FIGHTER WEAPONS CENTER**
- **AFSC**
- **USAFE**
- **PACAF**
- **TRADOC**
- **COMBINED ARMS CENTER**
- **DARCOM**



-6  
OFF

THIS SLIDE DEPICTS THE SCOPE OF THE MISSION AREA ANALYSIS.  
(PAUSE)

REGARDING THE LAST ITEM UNDER DOES NOT, A SEPARATE JOINT STUDY ON RECCE SURVEILLANCE INDICATES THAT PROJECTED CAPABILITY COULD DEGRADE CAS/BI EFFECTIVENESS BY AS MUCH AS 50%.

# SCOPE

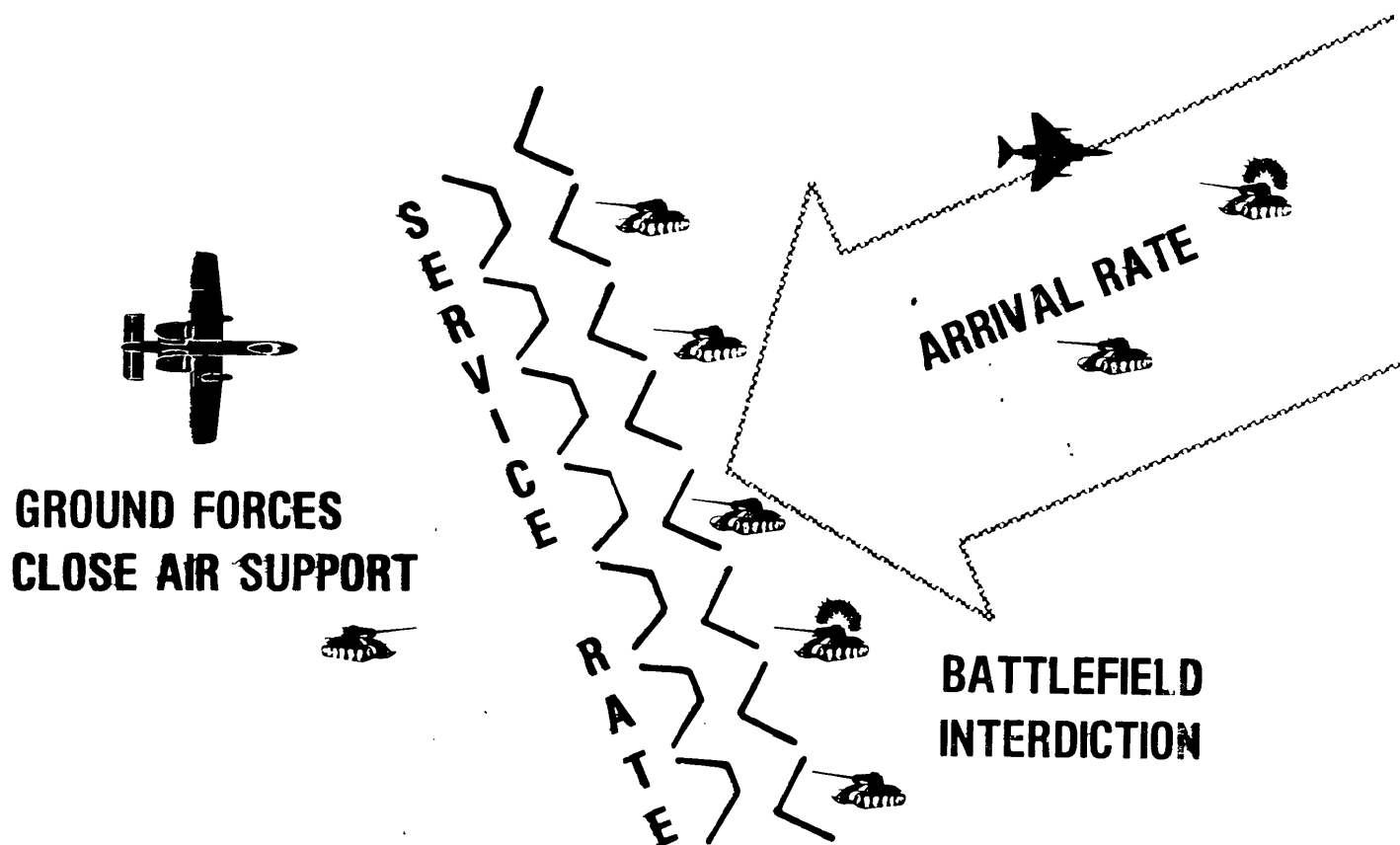
## DOES

- FOCUS ON CENTRAL EUROPEAN CONVENTIONAL CONFLICT IN THE 1981-1986 TIME FRAME
- INCORPORATE CURRENT NATO PLANNING FACTORS
- INCORPORATE THREAT ESTIMATES FROM APPROVED SOURCES

## DOES NOT

- INCLUDE NUCLEAR/CHEMICAL CAPABILITIES
- INCLUDE DEGRADATION FROM ELECTRONIC WARFARE
- INCLUDE DEGRADATION FROM RED AIR ON BLUE GROUND
- INCLUDE DEGRADATION FROM LESS THAN PERFECT INTELLIGENCE

THE METHODOLOGY IN THIS ANALYSIS APPLIES CAS TO INCREASE TARGET SERVICE RATE AT THE FORWARD LINE OF OWN TROOPS AND BATTLEFIELD INTERDICTION TO REDUCE ARRIVAL RATE OF FOLLOW-ON FORCES -- AND MEASURE RESULTS. THE TERMS SERVICE RATE AND ARRIVAL RATE ARE USED BY THE ARMY TO EXPRESS THEIR ORGANIC CAPABILITY TO CONTROL FORCE RATIOS. WE USED THEM IN THE JOINT STUDY TO FACILITATE INTERFACE WITH THEIR ANALYSIS.



L-8

THE DEFINITIONS WE USED FOR ANALYTICAL PURPOSES ARE SHOWN HERE.

#### DEFINITIONS

- CAS - AIR USED AGAINST ENGAGED RED UNITS AT THE FORWARD LINE OF OUR OWN TROOPS (FLOT), SO AS TO INCREASE THE SERVICE RATE OF BLUE GROUND FORCES, TARGETS GENERATED BY THE ARMY.
- BI - AIR USED AGAINST NON-ENGAGED RED UNITS, SO AS TO PREVENT/ DELAY THEIR ARRIVAL AT THE FLOT. TARGETS GENERATED JOINTLY BY THE ARMY AND AIR FORCES.

SECRET

L-9 THE DEMAND FOR CAS AND BI IS STRONGLY DRIVEN BY THE SPECIFIC GROUND FORCES OBJECTIVE. THE GUIDANCE SHOWN ON THIS SLIDE WAS USED TO DEFINE THE OBJECTIVES FOR THIS ANALYSIS. THE CONSOLIDATED GUIDANCE REQUIRES BOTH DEFENSIVE ACTION TO HOLD NATO TERRITORY AND OFFENSIVE ACTION TO RESTORE PREWAR BOUNDARIES. THE V CORPS MISSION STATEMENT REQUIRES DEFEATING ATTACKING FORCES WITHIN THE BATTLE AREA.

R-1 THOSE TWO STATEMENTS OF OBJECTIVE LEAD TO THE CONTINUUM OF OBJECTIVES SHOWN HERE. AT THE TOP WE FIND THE CONSOLIDATED GUIDANCE DIRECTING THAT WE RESTORE THE PRE-WAR BOUNDARY. ACCORDINGLY, THE GREEN AREA DEPICTS A REQUIREMENT FOR OFFENSIVE GROUND ACTION. THERE IS NO PERCEIVABLE INTENT TO PROVIDE THE FORCES NEEDED FOR SUSTAINED OFFENSIVE GROUND ACTION, SO IN SPITE OF THE CONSOLIDATE GUIDANCE, A REASONABLY ATTAINABLE OBJECTIVE IS TOP OF THE YELLOW. THAT PROVIDES THE CAPABILITY REQUIRED FOR A SUCCESSFUL DEFENSE AT THE FORWARD EDGE OF THE MAIN BATTLE AREA. THE BOTTOM OF THE YELLOW IS THE CAPABILITY REQUIRED FOR A DELAYING ACTION TO ALLOW THE GROUND FORCES TO TRADE SPACE FOR KILL TIME UP TO 50 KILOMETERS. THIS IS WHAT THE V CORPS IS EXPECTED TO DO WITHOUT REINFORCEMENT. THE RESULTS WE WILL SHOW IN THE REMAINDER OF THIS BRIEFING ARE KEYED TO THIS BASIC CHART.

R-1 & L-9  
OFF

SECRET

# **APPROACH**

## **U.S. OBJECTIVES**

**SECRET**

**“LAND AND TACTICAL AIR FORCES WILL GIVE INITIAL PRIORITY TO STOPPING THE MAIN ATTACK WITH MINIMUM LOSS OF TERRITORY, THEN TO GAINING THE STRATEGIC INITIATIVE, AND ULTIMATELY RESTORING THE PREWAR BOUNDARIES.”**

**CONSOLIDATED GUIDANCE, 17 MAR 78**

## **V CORPS MISSIONS**

**“DESTROY THE 1st ECHELON ARMY AS AN OFFENSIVE THREAT IN THE MAIN BATTLE AREA.”**

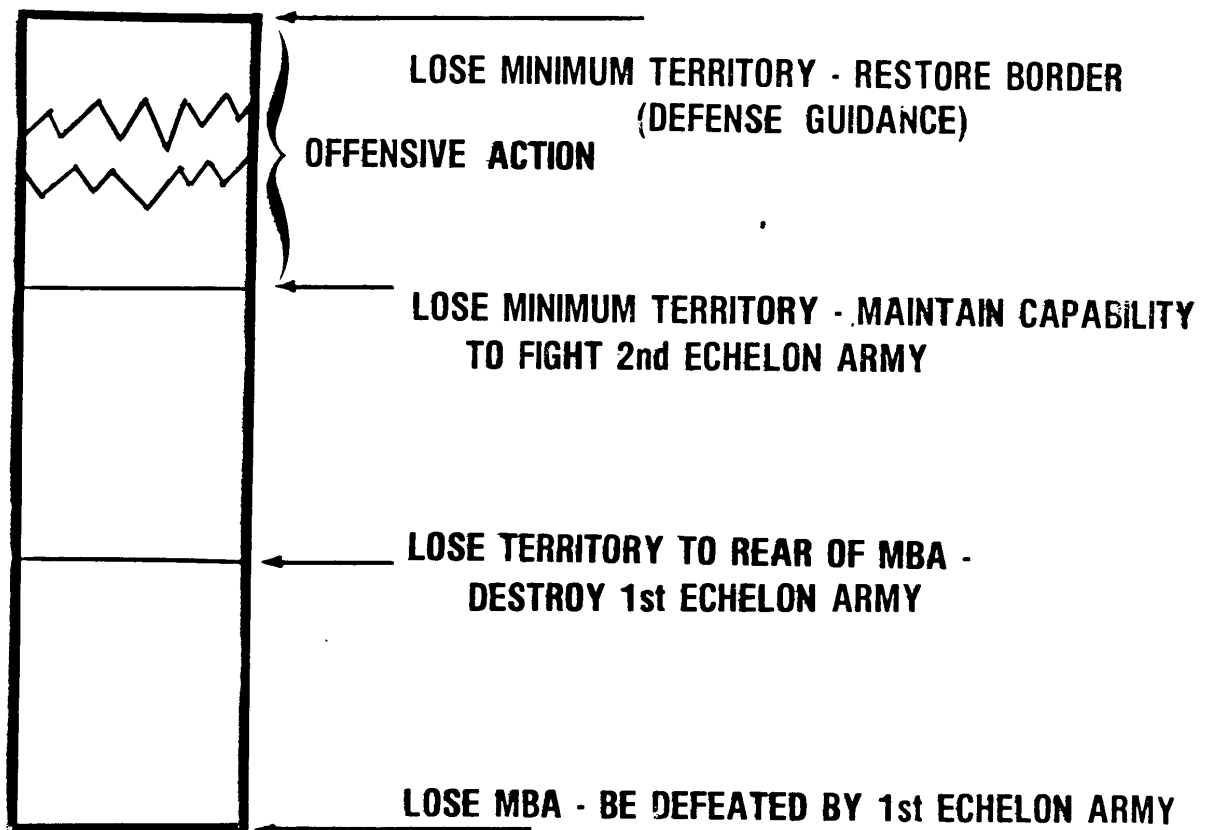
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## OBJECTIVE CONTINUUM

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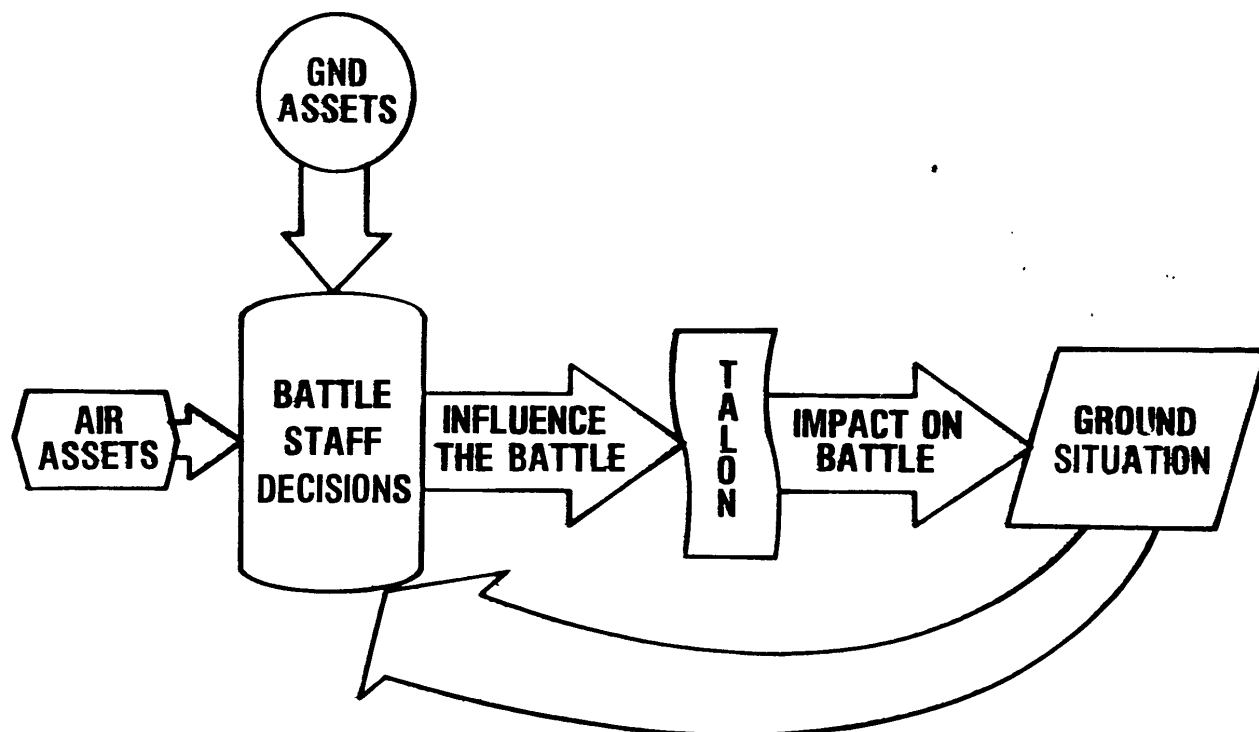
SECRET

L-10 ON

THE METHODOLOGY USED IN THE STUDY IS ILLUSTRATED HERE. AN INTERACTIVE MODEL CALLED TALON WAS USED WITH A MAN-IN-THE-LOOP BATTLE STAFF COMPOSED OF MEMBERS FROM THE TAF AND THE ARMY. THE TALON MODEL ALLOWS THE BATTLE STAFF TO PLAY THE CORPS SIZED AIR-LAND BATTLE. IN THIS STUDY, THE MODEL USED AS THE GROUND INPUT A DETAILED V CORPS BATTLE SCENARIO DEVELOPED BY TRADOC'S COMBINED ARMS CENTER. THE AIR ASSETS USED WERE THOSE PROJECTED FOR 1981 AND 1986. THE BATTLE STAFF USED CURRENT USAF PLANNING FACTORS, THE AIRCRAFT ALLOCATED TO THE CORPS, AND OPERATIONAL JUDGEMENT TO INFLUENCE THE WAR AS IT PROGRESSED. THEY RECEIVED THE BATTLE SITUATION FROM HOURLY DISPLAYS AND CONTINUED TO FIGHT THE WAR WITH THE RESOURCES AVAILABLE. THE MAJOR OUTCOME WAS THE QUANTATIVE DATA AS A HISTORY OF THE WAR OVER TIME.

L-10 OFF

# METHODOLOGY



L-11 ON

THE ACTUAL MEASURE OF MERIT USED WAS MASS RATIO. THE COMBINATION OF SERVICE RATE AND ARRIVAL RATE PRODUCES MASS RATIO - WHICH IS BLUE MASS DIVIDED BY RED MASS FOR UNITS IN CONTACT. THIS SLIDE SHOWS WHAT WE ARE REALLY CONSIDERING WHEN WE SPEAK OF MASS RATIOS.

L-12 OFF

## **METHODOLOGY PRODUCES**

**CONFIDENTIAL**

**MEASURE OF MASS RATIO AT THE FEBA BASED ON:**

**MASS RATIO =**

$$\frac{\text{INITIAL BLUE MASS} + \text{BLUE ARRIVALS} - \text{TGTS SERVICED BY RED}}{\text{INITIAL RED MASS} + \text{RED ARRIVALS} - \text{TGTS SERVICED BY BLUE}}$$

L-12 ON TALON GIVES US THIS MASS RATIO AS A FUNCTION OF TIME. MASS RATIOS ARE NOT THE SAME AS FORCE RATIOS. MASS RATIOS TAKE INTO ACCOUNT KILLING POWER, TERRAIN, WEATHER, FORCE DISPOSITION, TACTICS, AND DOCTRINE, WE EXPRESS MASS IN T-62 TANK EQUIVALENTS.

R-2 ON OUR OBJECTIVE IS TO ACHIEVE A MASS RATIO EQUAL TO ONE FOR A SUCCESSFUL DEFENSE. THIS, IF CONSIDERED IN THE FORCE RATIO TERMS, IS APPROXIMATELY EQUAL TO A RED 3, BLUE 1 RATIO OF UNITS IN CONTACT WITH BLUE IN PREPARED POSITIONS DEFENDING IN HILLY TERRAIN. TO ILLUSTRATE THE IMPACT OF THE SCENARIO CONDITION, IF THE BLUE MISSION WAS TO TAKE THE OFFENSIVE AGAINST THESE SAME ENEMY FORCES IN THOSE SAME CONDITIONS, IT WOULD TAKE 8 OR 9 TIMES THE BLUE FORCE TO PRODUCE A MASS RATIO OF ONE. AGAIN, THIS STRESSES THE DIFFERENCE IN THE DEMAND FOR FORCES TO MEET OUR CAS/BI OBJECTIVE OF DEFENDING IN PLACE. . . AND THE CONSOLIDATED GUIDANCE OBJECTIVE OF RESTORING PRE-WAR BOUNDARIES.

L-12 & R-2  
OFF

TALON METHODOLOGY PRODUCES

- MEASURE OF MASS RATIO AT FLOT OVER TIME:

$$\frac{\text{BLUE MASS}}{\text{RED MASS}}$$

FOR EACH BATTALION ENGAGEMENT

- MASS MEASURED IN T-62 TANK EQUIVALENTS - A  
HOMOGENEOUS MEASURE WHICH ACCOUNTS FOR:
  - ABILITY TO ATTRITE OPPOSING FORCE OVER TIME
  - TERRAIN, WX, FORCES DISPOSITION (DEFENSE/OFFENSE)
  - EQUIPMENT, TACTICS, DOCTRINE

## MEASURE OF MERIT

SECRET

- BLUE TO RED MASS RATIO AT LEAST EQUAL TO 1 PROVIDES ADEQUATE DEFENSE
- FOR CURRENT FORCES WITH BLUE IN DEFENSIVE POSITIONS, BLUE/RED MASS RATIO AT LEAST EQUAL TO 1 REQUIRES RED/BLUE FORCE RATIO OF LESS THAN 3 TO 1

YDR

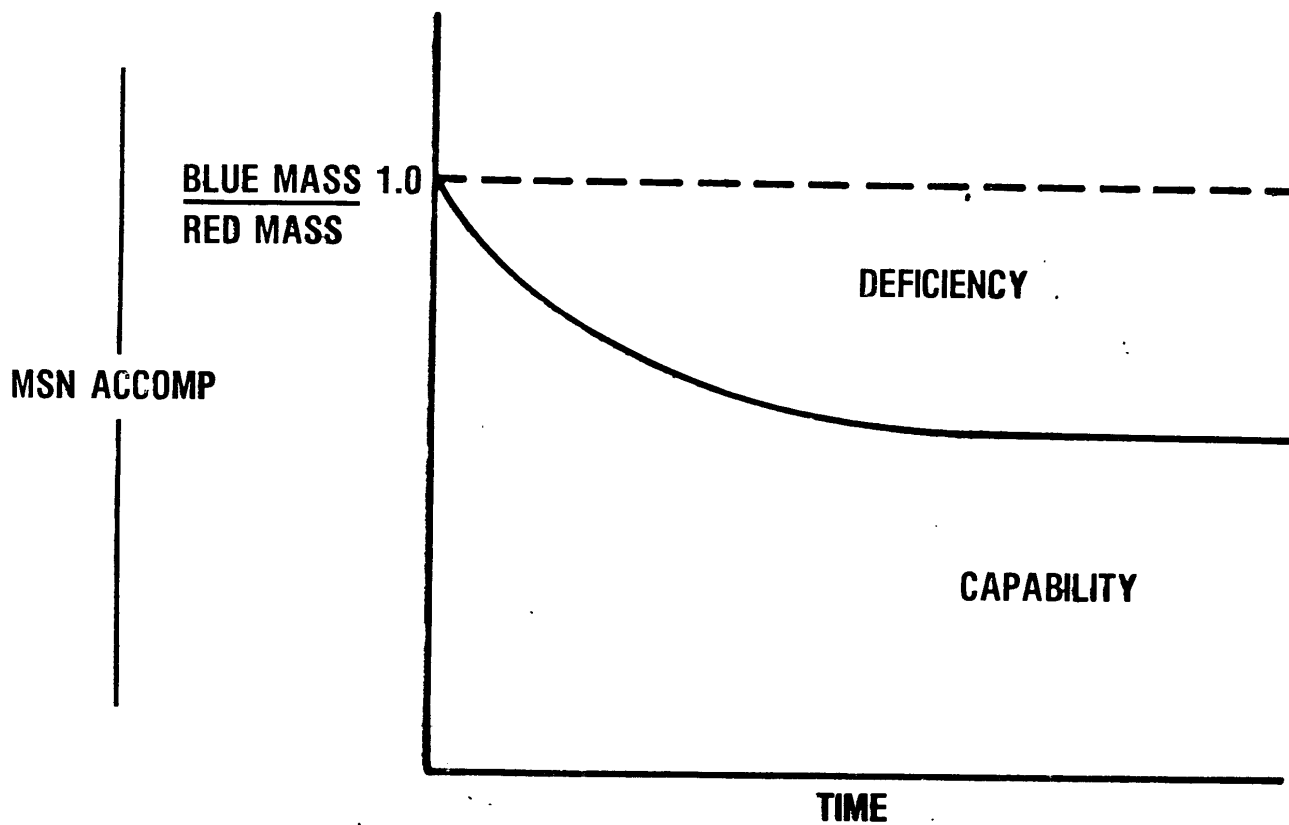
SECRET



L-13

THE FIRST BATTLE STAFF OBJECTIVE WAS TO ALLOCATE FORCES TO MAINTAIN A MASS RATIO OF AT LEAST ONE, TO ALLOW US TO DEFEND IN PLACE. THAT OBJECTIVE IS THE DASHED LINE SHOWN HERE. OUR STUDY DEVELOPED A HISTORY OVER TIME OF THE ACTUAL MASS RATIO, TO PROVIDE THE MEASURE OF DEFICIENCY IN THE JOINT FORCE CAPABILITY. IN THE COURSE OF THIS STUDY WE RAN OVER 300 ITERATIONS TO DEVELOP THE BASIC DATA AND MEASURE THE SENSITIVITIES TO VARIANCES.

# OBJECTIVE FUNCTION

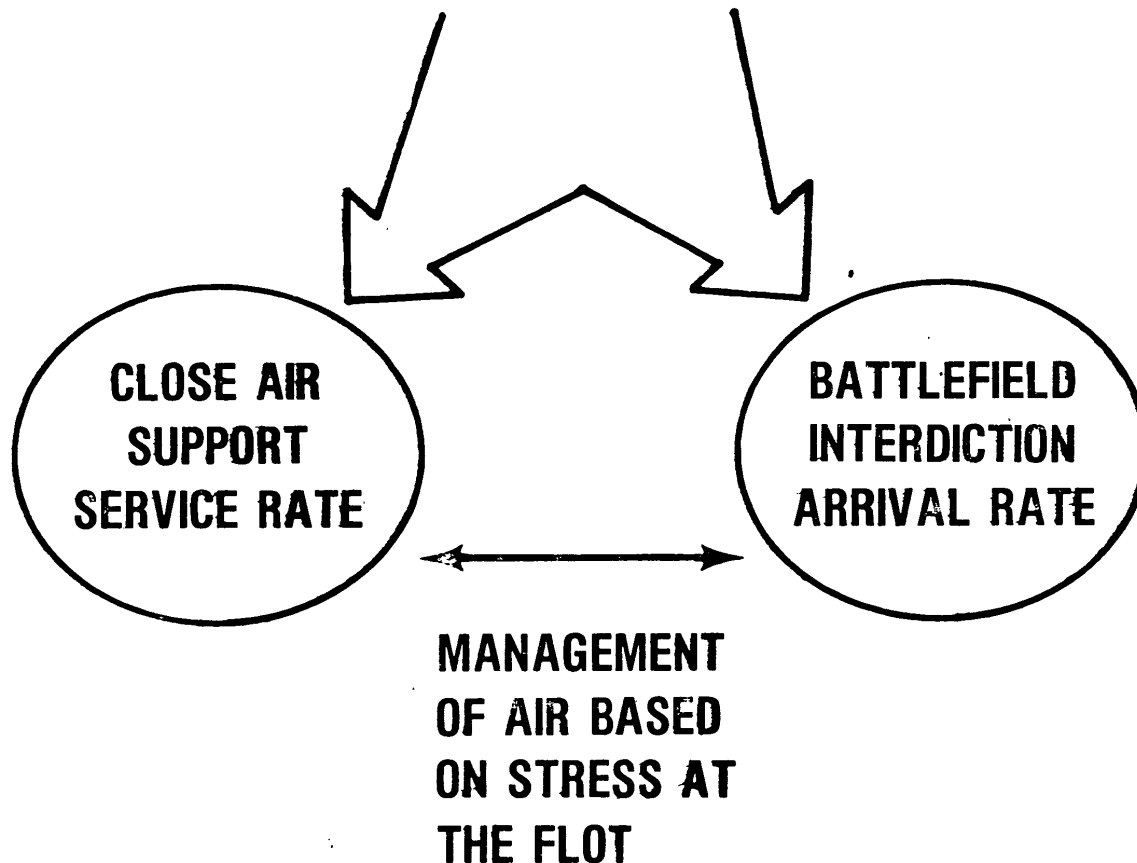


L-14 ON

A KEY BATTLE STAFF DECISION IS THE ALLOCATION OF AIR SUPPORT BETWEEN CAS AND BI. THAT ALLOCATION STRONGLY IMPACTS THE OUTCOME OF THE BATTLE AND THE KINDS OF CAPABILITY NEEDED IN OUR AIR SUPPORT FORCES. NUMEROUS ITERATIONS WERE CONDUCTED TO INVESTIGATE THESE IMPACTS. THE STUDY GROUP FOUND THAT EFFECTIVE USE OF AIR SUPPORT IS VERY TIME AND SPACE DEPENDENT AND THAT ALLOCATION OF AIR-TO-GROUND CAPABLE AIRCRAFT BETWEEN THESE MISSIONS NEEDS TO BE MADE ON THE BASIS OF STRESS AT THE FORWARD LINE OF OWN TROOPS. STRESS IS BASED ON THE BALANCE OF THE FORCES IN CONTACT AND THE INTENSITY OF THE CONFLICT.

FLIP

## ALLOCATED AIR RESOURCES



R-3 ON  
L-11 ON

TO ILLUSTRATE, THIS SLIDE SHOWS THE VARIATION OF STRESS AT THE FORWARD LINE OF TROOPS ACROSS THE FRONT AS THE BATTLE PROGRESSED. ON THE VERTICAL AXIS, WE MEASURE THE STRESS AS A RATIO OF RED TO BLUE ENGAGED FORCES. TIME IN DAYS IS ON THE HORIZONTAL AXIS. A COMBAT SECTOR IS ABOUT A BATTALION SIZE FIGHT. WE SHOW TWO REPRESENTATIVE SECTORS. AT A TIME OF LOW STRESS -- SHOWN HERE AT D+1.5 -- ARMY ORGANIC FIREPOWER CAN PROBABLY HANDLE THE SITUATION AT THE FLOT AND USE OF CAS AT THAT TIME WOULD DUPLICATE THEIR CAPABILITY. HOWEVER, NOTE THE SITUATION COMING AT D + 3. MAXIMUM BATTLEFIELD INTERDICTION AT D+1.5 WOULD REDUCE THAT DEVELOPING STRESS . . . BUT IF BI IS NOT EFFECTIVE, THE SITUATION AT THE FLOT BY D+5 IS OVERWHELMING. THE BATTLE STAFF HAS LESS THAN PERFECT KNOWLEDGE OF WHAT IS COMING IN THREE DAYS, SO AN ALLOCATION RULE MUST BE BASED ON WHAT IS HAPPENING NOW.

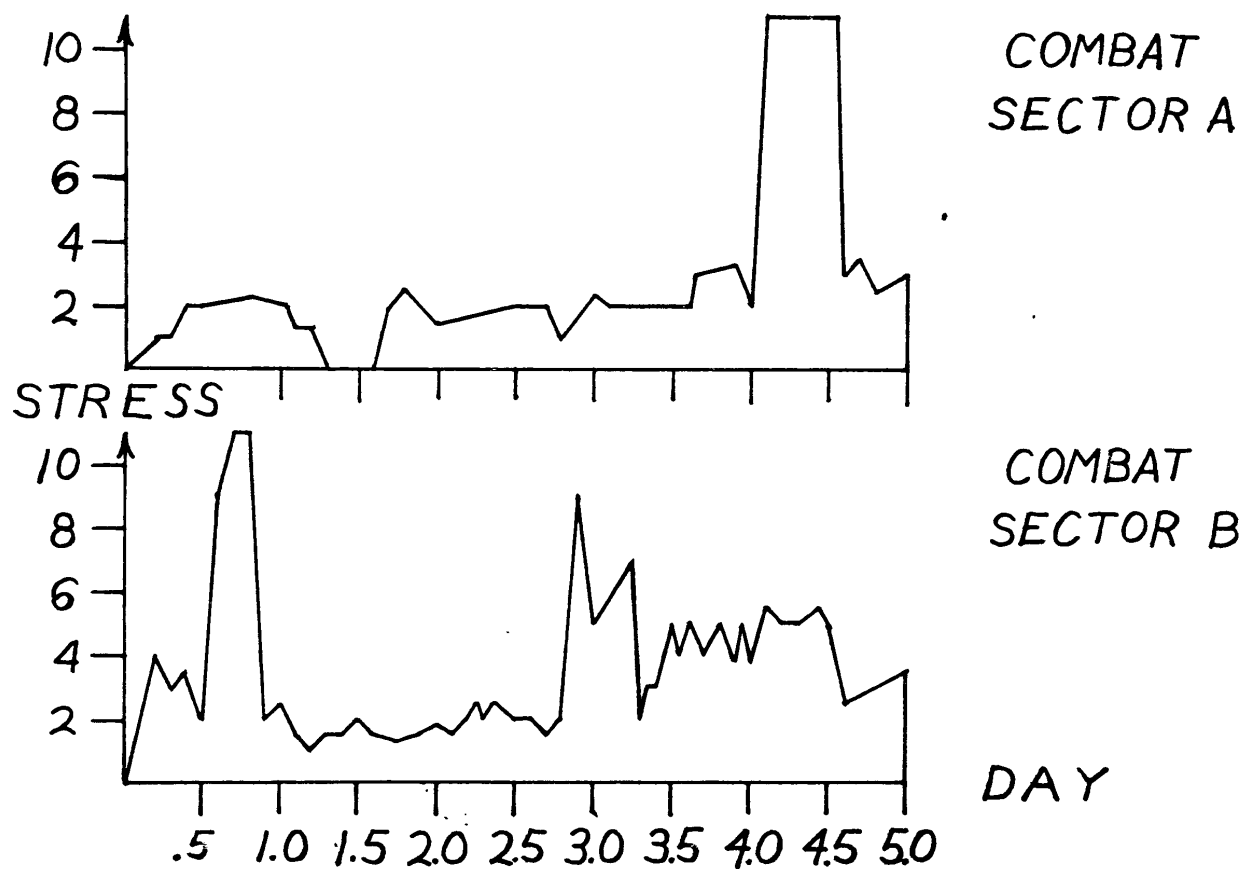
R-4 ON

HENCE, THIS WAR STRATEGY WAS ADOPTED FOR OFFENSIVE AIR SUPPORT. FIRST PRIORITY WAS CAS AS NEEDED TO CONTROL THE IMMEDIATE SITUATION, THAT IS, TO RAISE THE SERVICE RATE AT THE FLOT AS REQUIRED TO MAINTAIN ACCEPTABLE FORCE RATIOS. THE REMAINING CAPABILITY WAS CONCENTRATED ON CONTROLLING ARRIVAL RATE.

R-13 OFF  
R-4 OFF

+

# DEMAND FOR AIR SUPPORT



## **OFFENSIVE AIR SUPPORT STRATEGY**

- **CORPS COMMANDER WEIGHS CURRENT THREAT VERSUS POTENTIAL THREAT**
- **PREFERENCE CONTROL OF ARRIVAL RATE RATHER THAN RESPONSE TO SERVICE RATE**
- **CAS AS REQUIRED TO MAINTAIN A VIABLE SERVICE RATE**
- **EMPHASIS ON BI WHEN AFFORDABLE ALLOWS AIR FORCE FLEXIBILITY TO EFFECTIVELY MANAGE TOTAL ASSETS FOR OPTIMIZED PAYOFF**

**REQUIRES EFFECTIVE BATTLEFIELD INTERDICTION CAPABILITY**

-15 ON BEFORE WE LOOK AT RESULTS, LET US BRIEFLY EXAMINE THE AIR ALLOCATION USED IN OUR ANALYSIS OF SUPPORT THE THE V US CORPS.

- FIRST, THE RELATIVE GROUND THREATS WERE ASSESSED FOR EACH ARMY GROUP AND EACH CORPS WITHIN THE GROUP. ENGAGED FORCE RATIOS WERE ESTABLISHED EACH DAY.

-5 ON TO DETERMINE THE LEVEL OF AIR SUPPORT AVAILABLE TO THE V CORPS, WE STARTED WITH THE USAF COUNTERPLAN, NOW CALLED CENTER CHASE. THE CENTER CHASE PLAN HAS THREE STRATEGY OPTIONS: ONE IS HEAVY ON OFFENSIVE COUNTERAIR AND DEEP INTERDICTION. ONE IS HEAVY ON CAS AND BATTLEFIELD INTERDICTION; AND ONE IS BALANCED BETWEEN THE TWO. (BOTH INCLUDE DEFENSIVE COUNTERAIR)

- WE SELECTED THE HEAVY CAS/BI STRATEGY BECAUSE IT QUICKLY BECAME APPARENT THAT EVEN WITH THAT STRATEGY, WE HAD A SIGNIFICANT SHORTFALL.

L-15 FLIP - THE ACTUAL ALLOCATION OF CAS/BI BY DAY IS SHOWN AT THE RIGHT. TO DETERMINE THE V CORPS SLICE OF THAT AIR SUPPORT, AS SHOWN AT THE LEFT, 50% OF THE ARMOR KILL POTENTIAL WAS ALLOCATED TO CENTAG AND 40% OF THAT WENT TO V CORPS. THIS WAS A SLIGHTLY HEAVY ALLOCATION TO V CORPS.

15 & R-5  
OFF





**SECRET**

## ALLOCATION OF AIR FORCES

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### ● CENTER CHASE OFFENSIVE AIR SUPPORT (HEAVY CAS/BI)

	<u>D-DAY</u>	<u>D + 1</u>	<u>D + 2</u>	<u>D + 3/D + 4</u>
<b>CAS/BI</b>	<b>67%</b>	<b>70%</b>	<b>75%</b>	<b>77%</b>
<b>DEFENSIVE COUNTERAIR</b>	<b>33%</b>	<b>30%</b>	<b>25%</b>	<b>23%</b>
<b>OFFENSIVE COUNTERAIR</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

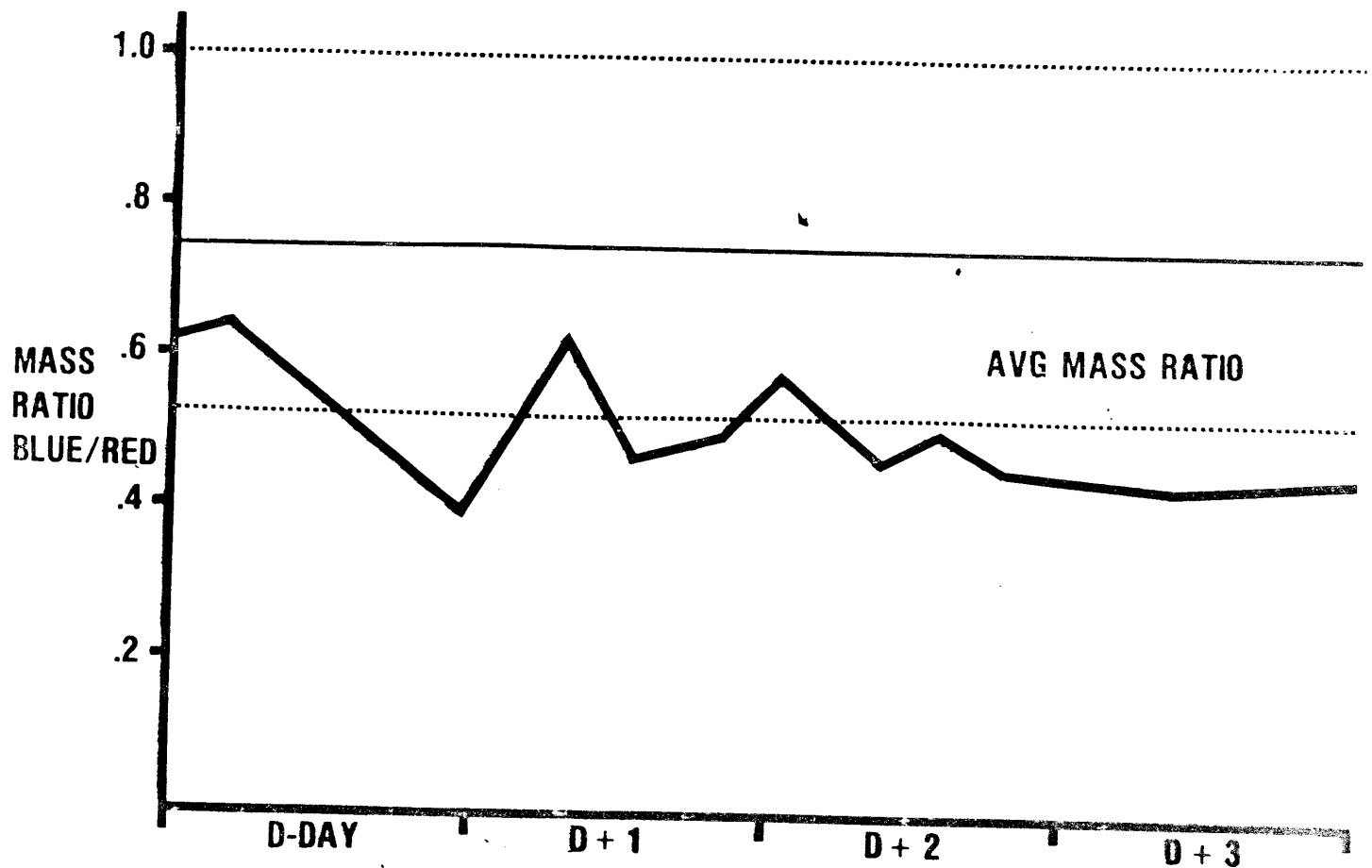
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L-16 THE RESULTS OF THE 1981 CASE ARE SHOWN HERE. THE GRAPH DEPICTS THE CORPS FRONT MASS  
RATIO AS THE BATTLE PROGRESSED FROM D-DAY THROUGH D+3. THIS SHOWS THE JOINT MISSION  
ACCOMPLISHMENT AS MEASURED AGAINST OUR OBJECTIVE. I REMIND YOU THAT THE GREEN/YELLOW  
JUNCTURE IS A HOLD IN PLACE MISSION, THE YELLOW/RED JUNCTURE IS TRADING SPACE FOR  
TIME TO THE REAR OF THE MAIN BATTLE AREA. THE DOTTED LINE IS THE AVERAGE RATIO OVER  
THE WAR, AND IS THE SINGLE MEASURE USED FOR MISSION ACCOMPLISHMENT. THIS SAME DOTTED  
R-6 LINE IS SHOWN ON THE CONTINUUM SLIDE AT THE RIGHT. NOTE, IN 1981 JOINT MISSION  
ACCOMPLISHMENT FELL BELOW EVEN THE MINIMUM V CORPS UNREINFORCE MISSION AND FELL FAR  
BELOW OUR CAS/BI OBJECTIVE.

L-16 & R-6  
OFF

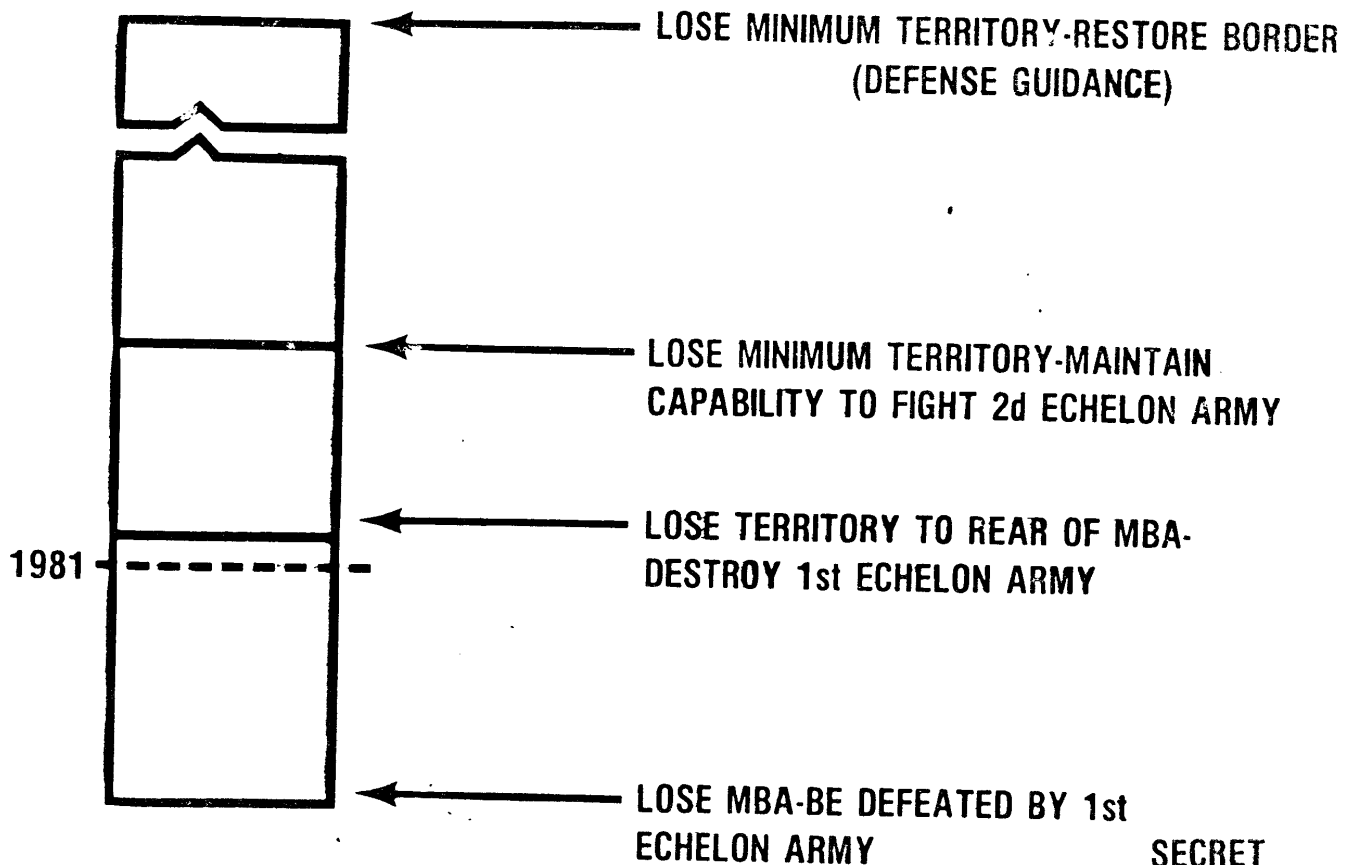
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## 1981 BASE CASE



## JOINT OBJECTIVES

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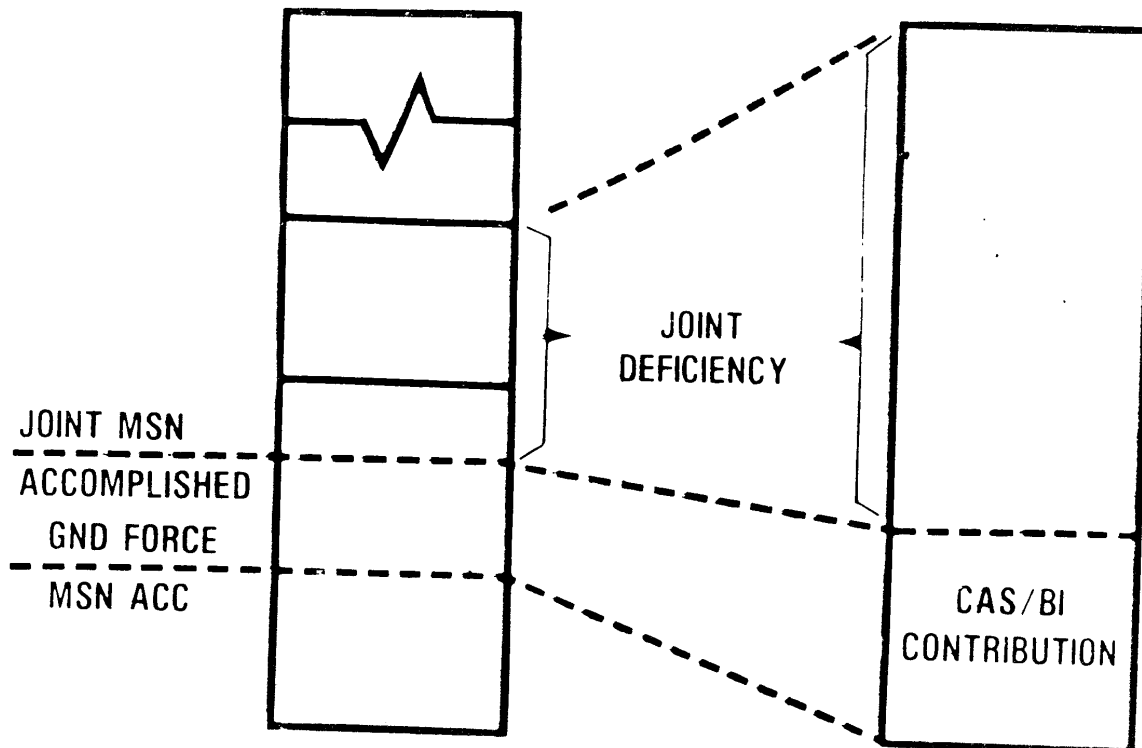
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L-17 ON TO GET TO WHAT IS NEEDED TO REDRESS THE DEFICIENCY IN CAS/BI SUPPORT TO DEFEND IN PLACE, WE'LL SEPARATE IT INTO ITS COMPONENTS. AGAIN, THE TOTAL NEED FOR SUPPORT IN 1981 IS SHOWN ON THE BAR FROM THE GROUND FORCE MISSION ACCOMPLISHMENT TO THE 100% OBJECTIVE LINE. THE BAR ON THE RIGHT OF THE CHART BREAKS THAT DOWN INTO THE 1981 CAS/BI CONTRIBUTION AND THE REMAINING JOINT DEFICIENCY IN OVERALL COMBAT POWER. JOINT MISSION ACCOMPLISHMENT IS THE DOTTED LINE. THE SPACE BETWEEN THE TWO DOTTED LINES (LEFT BAR) IS THE CONTRIBUTION OF AIR SUPPORT. THE BLUE PART OF THE BAR ON THE RIGHT IS WHAT WE CAN DO NOW AND THE BROWN PORTION IS THE UNFILLED NEED.

# JOINT DEFICIENCY

1981

SECRET



SECRET

8 ON

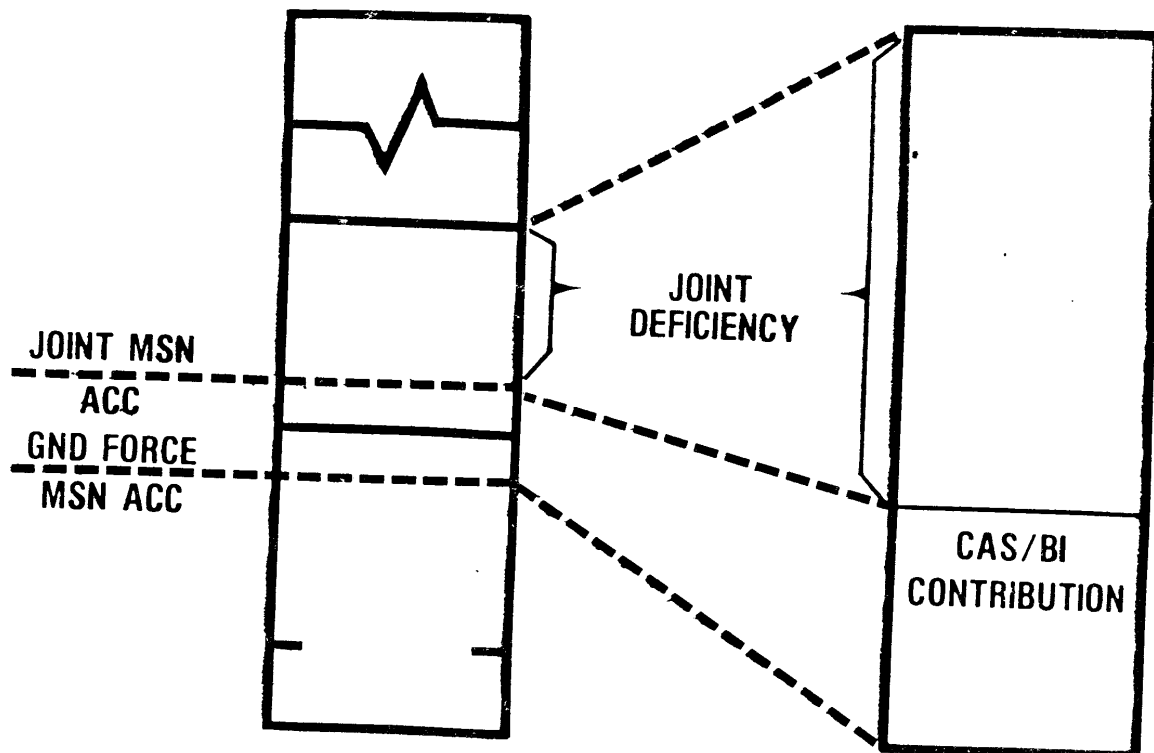
THIS SLIDE SHOWS THE SAME PICTURE FOR 1986 FORCES. (PAUSE)  
THE JOINT DEFICIENCY SHOWN ON THE RIGHT BAR COULD BE FILLED WITH QUALITATIVE OR  
QUANTITATIVE IMPROVEMENTS IN BOTH AIR FORCE AND ARMY SYSTEMS.  
TO FURTHER ANALYZE THE DEFICIENCIES . . .



# JOINT DEFICIENCY

SECRET

1986



SECRET

L-19

THIS SLIDE SHOWS THE COMPONENTS OF THE CAS/BI DEFICIENCY IN THE ENVIRONMENTAL STATES IN WHICH THE MISSION MUST BE PERFORMED. THIS MEANS, FOR EXAMPLE, AT LEAST 44% OF THE SOLUTION MUST BE AN IN WEATHER SOLUTION.

# COMPONENTS OF THE CAS/BI DEFICIENCY

1986

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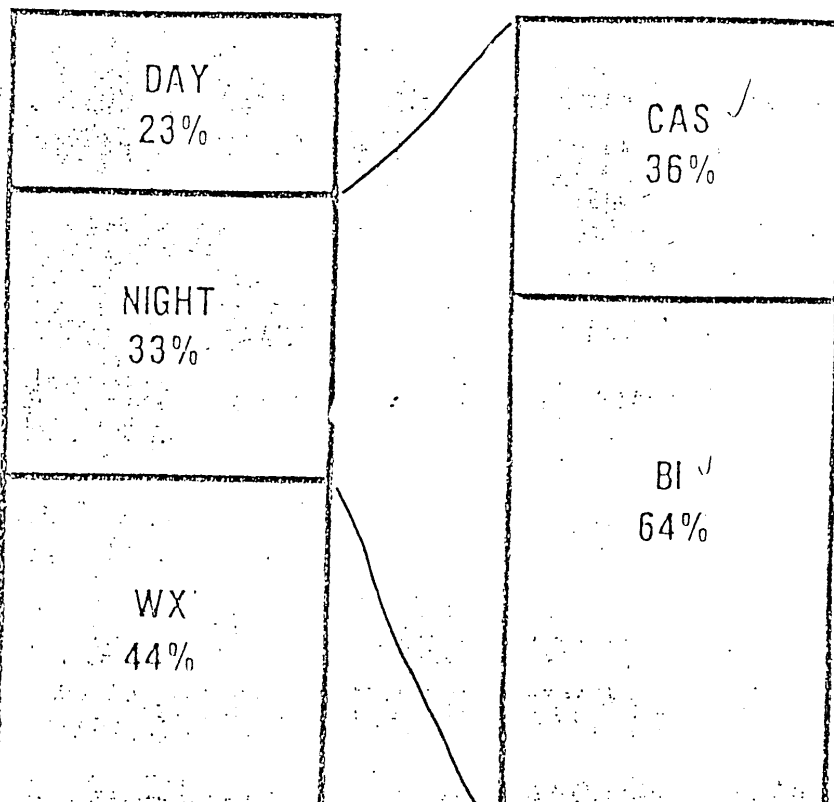
DAY 23%
NIGHT 33%
WX 44%

FLIP 1 THIS SHOWS A FURTHER BREAKOUT OF THE NIGHT COMPONENT INTO THE TWO MISSIONS OF CAS AND BATTLEFIELD INTERDICTION. THIS INDICATES THAT THE LARGEST DEFICIENCY IS IN THE BATTLEFIELD INTERDICTION AREA. THE PERCENTAGES SHOWN WERE DERIVED FROM OVER 300 BATTLE ITERATIONS AVERAGED FOR ALL WEAPON SYSTEM TARGET COMBINATIONS GAMED IN THE STUDY.

# COMPONENTS OF THE CAS/BI DEFICIENCY

SECRET

1986



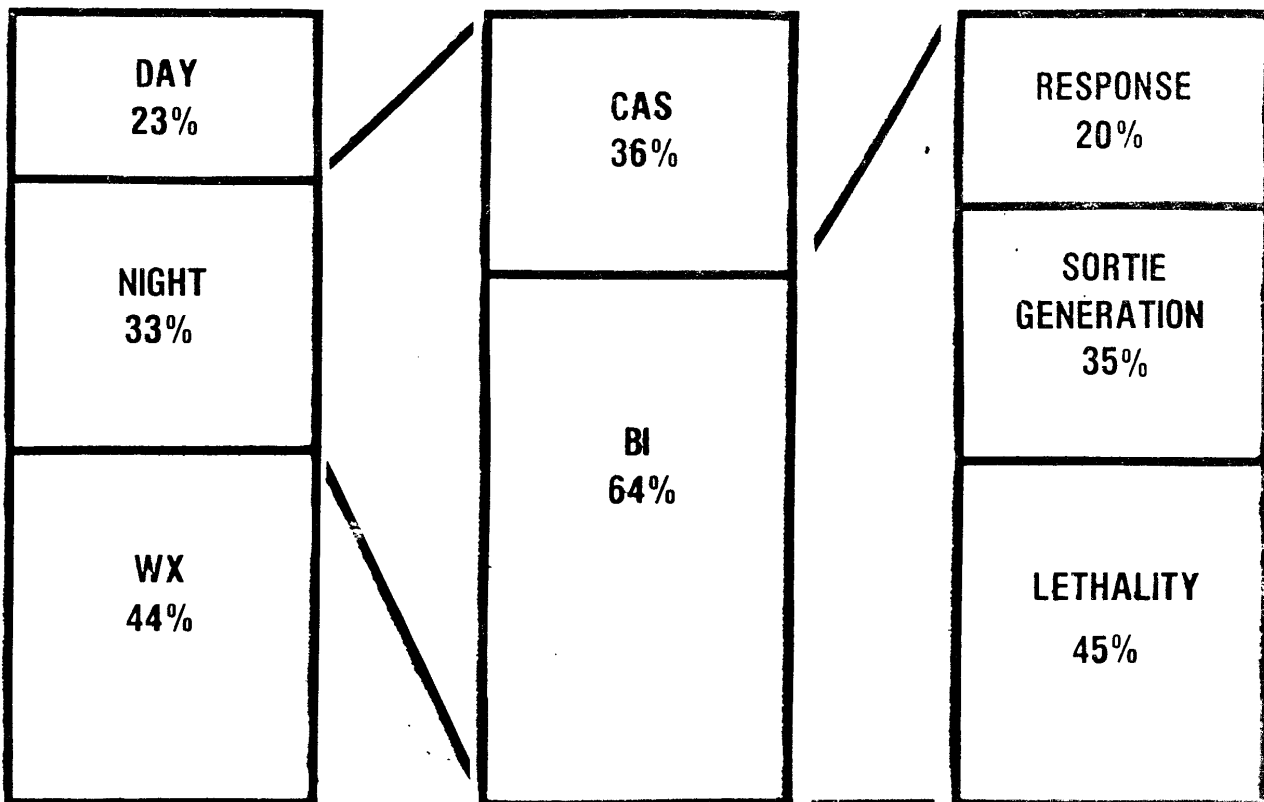
9 FLIP 2 TO FURTHER BREAK OUT THE DEFICIENCY, HERE ARE THE MISSION FACTORS WHICH MOST  
INFLUENCED MISSION SUCCESS.  
ON THESE FACTORS ARE DEFINED ON THE RIGHT. (PAUSE)  
THE PERCENTAGES WERE DEVELOPED BY DETERMINING THE MARGINAL CONTRIBUTION OF EACH  
THROUGH THE USE OF SENSITIVITY ANALYSIS.  
WHAT THE CHART SAYS IS THAT THE PRIMARY DRIVER ~~IN~~ INABILITY TO MEET THE DEMAND FOR  
EFFECTIVE BATTLEFIELD INTERDICTION AT NIGHT WAS LETHALITY. THAT IS, SORTIES BY  
NIGHT CAPABLE SYSTEMS WERE AVAILABLE BUT LETHALITY WAS TOO LOW TO BE EFFECTIVE.  
- THE SORTIE GENERATION SHORTFALL INDICATES THAT THE SITUATION PERMITTED EFFECTIVE  
EMPLOYMENT OF EXISTING NIGHT CAPABILITY BUT THAT WE WERE UNABLE TO GENERATE ENOUGH  
SORTIES.  
- THE REMAINING SHORTFALL REPRESENTS SITUATIONS WHERE THE TARGET WAS TOO FLEETING  
FOR THE RESPONSE TIME.

7 OFF

## COMPONENTS OF THE CAS/BI DEFICIENCY

1986

SECRET



SECRET

## **TERMS USED**

- SORTIE GENERATION:** THE OVERALL ABILITY TO PRODUCE  
SORTIES-EXPRESSED IN SORTIES GENERATED
- RESPONSIVENESS:** TIME FOR AN AIRCRAFT TO ARRIVE ON  
TARGET AFTER TARGET IS LOCATED AND  
STRIKE IS REQUESTED - EXPRESSED AS  
RESPONSE TIME
- LETHALITY:** THE OVERALL ABILITY TO KILL A TARGET -  
INCLUDES PROBABILITY OF - DISCRIMINATION,  
ACQUISITION, LAUNCH, HIT, AND KILL -  
EXPRESSED IN KILLS PER SORTIE



R-8 ON

THIS SAME PROCESS WAS THEN USED TO DETERMINE THE PERCENT OF THE DEFICIENCY WHICH COULD BE FULFILLED BY IMPROVEMENT IN EACH OF THE QUALITATIVE FACTORS IN DAY, NIGHT, AND WEATHER FOR CAS AND BATTLEFIELD INTERDICTION.

R-8 FLIP 1

... WHICH PRODUCED THIS MATRIX SHOWING THE TOTAL NEED FOR CAS/BI. SHOWN HERE IS THE SAME NIGHT, BATTLEFIELD INTERDICTION NEEDS RELATIONSHIP ILLUSTRATED ON THE LEFT, EXCEPT THE NUMBERS ON THE RIGHT ARE NORMALIZED TO 100% FOR THE ENTIRE MATRIX.

R-8 FLIP 2

HERE IS THE REST OF THE MATRIX. THESE NUMBERS REPRESENT ONLY THE RELATIVE WEIGHT OF THE COMPONENTS OF THE NEED. THE TOP FIVE NEEDS ARE HIGHLIGHTED. (PAUSE)

I'LL SHOW THE PRIORITIZED NEEDS LIST IN A MINUTE, BUT FIRST A REMINDER THAT OUR ANALYSIS ERRS ON THE SIDE OF OPTIMISM IN DETERMINING FURTHER NEEDS FOR CAS/BI CAPABILITY.

L-19, R-8

OFF

## CAS/BI

### NORMALIZED NEED MATRIX 1986

(DEFEND IN PLACE)

		LETHALITY	RESPONSE	SORTIE GENERATION
DAY	CAS	4.16	1.97	2.79
	BI	7.01 <sup>5</sup>	3.17	5.42
NIGHT	CAS	4.99	2.36	3.36
	BI	8.38 <sup>3</sup>	3.80	6.50
WEATHER	CAS	7.84 <sup>4</sup>	3.70	5.28
	BI	13.13 <sup>1</sup>	5.97	10.17 <sup>2</sup>

ALFA

SECRET

SECRET

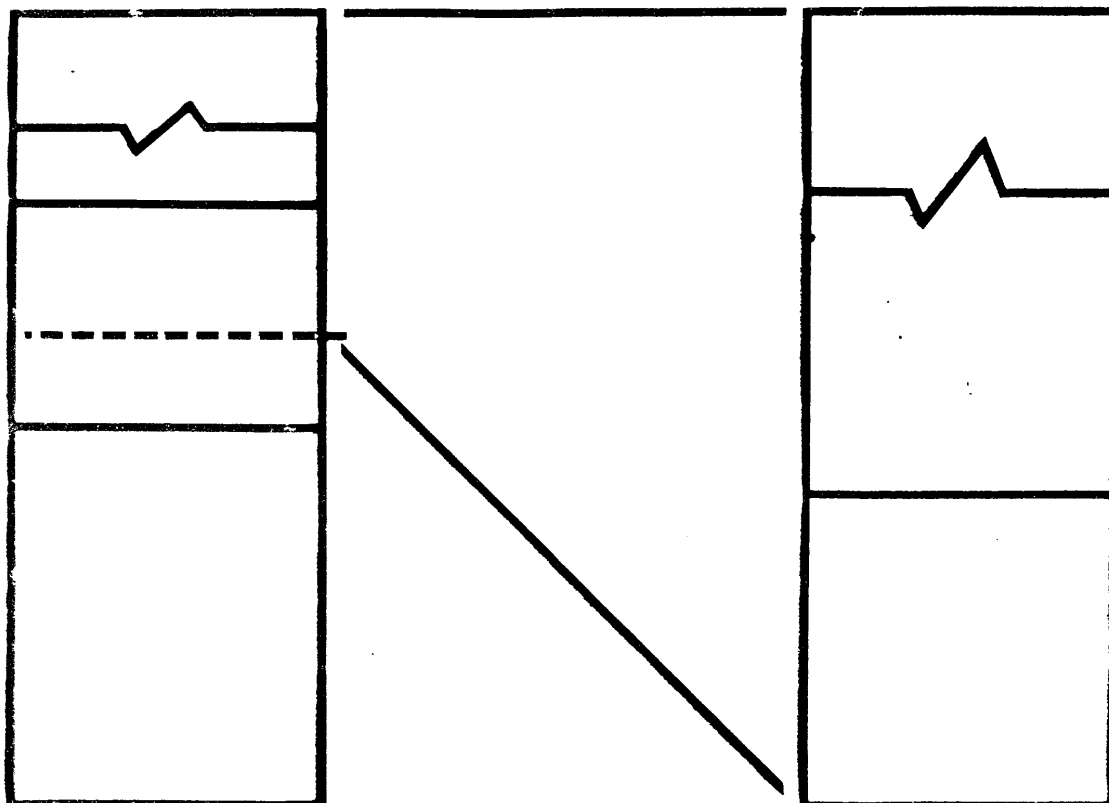
L-20 ON THE LARGEST FACTOR IS THAT THE BATTLE STAFF OBJECTIVE WAS TO DEFEND IN PLACE, THIS DID NOT MEET DEFENSE GUIDANCE BUT WAS DRIVEN BY FORCES AVAILABLE. MOVING FROM THE YELLOW TO THE TOP OF THE GREEN REQUIRES SUSTAINED OFFENSIVE GROUND ACTION, AS MENTIONED EARLIER, THAT COULD TAKE SEVERAL TIMES THE FORCES NEEDED TO DEFEND IN PLACE.

SECRET

# IMPACT OF DEFENSE GUIDANCE

SECRET

DEFEND  
IN  
PLACE



L-21 ON

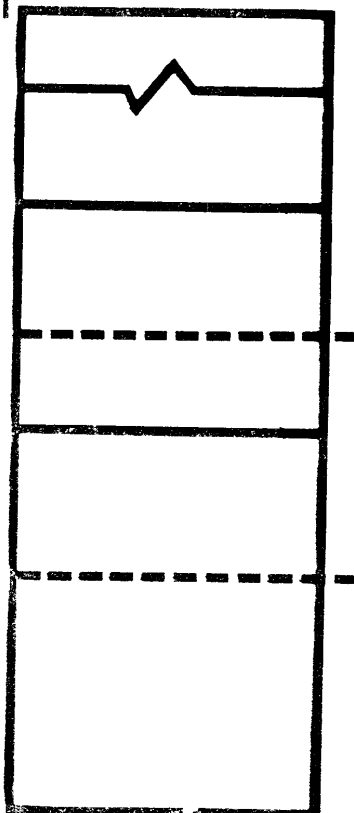
. . .AND WE HAVE NOT ANALYZED OUR NEEDS TO ACTUALLY FIGHT THE SUBSEQUENT ECHELONED ARMIES. NOR HAVE WE ACCOUNTED FOR RED'S AIR-TO-GROUND ATTACKS ON BLUE MANEUVER UNITS. I ALREADY MENTIONED THE ASSUMPTION THAT RECCE SURVEILLANCE PROVIDES THE BATTLE STAFF WITH COMPLETE KNOWLEDGE OF ONGOING ENEMY ACTIONS. IN REALITY WE CAN EXPECT UP TO A 50% DEGRADATION FROM THAT FACTOR.

THUS OUR CALCULATION OF THE JOINT MISSION ACCOMPLISHMENT FOR THIS ANALYSIS REFLECTS THE BEST WE COULD DO WITH CURRENT AND PROGRAMMED FORCES AND MUNITIONS.

L-21 OFF

## OTHER IMPACTS

SECRET



- DEFEAT SUBSEQUENT ARMIES
- RED AIR ON BLUE GROUND

- RSTA

SECRET